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Furui

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(54) **DISTORTION CORRECTION FOR PROJECTOR**

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(58) **Field of Classification Search** 353/69, 353/70, 121, 122

See application file for complete search history.

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(57) **ABSTRACT**

An image processing device for a projector including an image formation section that emits light of an image, and a projection system that projects the emitted light onto a projection surface. The image processing device includes: a target display area determination section that determines, in a display area serving as a reference on the projection surface, based on a current value of a parameter, any of target display areas set for values possibly taken by the parameter within an allowable range to be targeted on a distortion-free image for display on the projection surface; a reference formation area determination section that determines, corresponding to the reference display area, based on information about a projection angle of the projector with respect to the projection surface, a reference formation area to be formed with a virtual distorted image that is supposed to be formed in the image formation section when the distortion-free image is displayed in the reference display area; and a correction application section that generates corrected image data for supply to the image formation section by correcting any provided original image data to form a target distorted image in a target formation area, which corresponds to the target display area as is defined by a relationship between the reference display area and the reference formation area, and is formed with the target distorted image that is supposed to be formed in the image formation section when the distortion-free image is displayed in the reference display area.

11 Claims, 19 Drawing Sheets